

REMARKS

1. The Notice of Non-Compliant Amendment mailed January 7, 2004 cited the lack of text of withdrawn claims, e.g. 12-17. The text of these claims is included in this response.

2. The Office Action presented a restriction requirement to which Applicant telephonically made the provisional election on June 18, 2003 of the Group I claims 1-11 drawn to the formulation. Applicant affirms this election and has withdrawn the Group II claims 12-17 from consideration by withdrawing them without prejudice in this response.

3. Claims 3-5, 8 and 9 were rejected under provisions of 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out distinctly claimed the subject matter which Applicant regards as the invention. Specifically, the use of the phrase "two-part epoxy" in claims 3 and 8 was alleged to not be consistent with the group description of at least one polymer. Additionally, the "partial 2-butoxy/ethyl ester" and "partial sec-butyl/methyl ester" and "partial sec-butyl/methyl ester" substituents recited in the claims were alleged to be indefinite because of the use of the "/" between the groups and the uncertainty of what type of esters the compounds were. This rejection is respectfully traversed.

Base claims 3 and 8 have been canceled without prejudice. The use of the "/" is an accepted symbol to designate a mixed ester. The amended claims 1, 4, 6 and 9 have added the term "mixed" to the description. Support for this is found in the Final Formulation description in Example 1. Applicant respectfully submits that the phrase in the now amended claims employing the "/" is definite and no new matter has been added by the claim amendments presented in this response. Accordingly reconsideration and withdrawal of the rejection are respectfully requested.

4. Claims 1, 2, 6, 7 and 10 were rejected under the provisions of 37 U.S.C. §102(b) as being anticipated by Nishihara et al. Claims 1-3, 6-8 and 10 were also rejected under the same provisions as being anticipated by Goetz et al and Carnahan et al. The Office Action alleged that each of the references taught the use of the solvent and an organometallic binding agent, a

zirconium dioxide; and at least one polymer in a formulation. These rejections are respectfully traversed.

Independent claims 1 and 6 have been amended to include specific polymers not found in any of the references. The particular polymers employed must be tailored to be compatible with particular metals with which they are used as a surface enhancer or barrier coating to prevent bleed through of the infiltrant metal. The polymers may not be overly aggressive in sticking to the surface of the base metal so that the parts crack and wrinkle on their surface when completed, nor must they be so passive that they do not sufficiently adhere to the metallic base so that the zirconium dioxide flakes off. Lastly, the particular polymer must be soluble in the solvent employed to be functional. Claim 1 additionally now recites the specific concentration by weight percent of the polymer in the solvent, based on support in the original specification on page 6, at lines 7-8.

The resins disclosed in the Goetz et al. reference are curable resin monomers that only form polymers upon curing resins. This is not what is employed in the present invention. Amended claim 1 recites polymers that are not curable, nor are they liquid until solvated. Hence, the Goetz reference does not anticipate the claimed invention, nor does it teach the use of an appropriate polymer for use as an enhancer on the surface of an infiltrated metal or metal-composite part by acting as a barrier coating. Carnahan et al. is using an electrical resistor ink that includes binders. However none of the specifically claimed ester binders that are sufficiently aggressive to adhere to the surface of the metal nor soluble in a suitable solvent in the now claimed weight percent are disclosed or taught. Further, all of the Examples in the reference use several orders of magnitude greater percent of binder in solvent. Nishihara et al. does not disclose the specific polymers employed that successfully function as a barrier coating to prevent bleed through. Nishihara does not disclose any ester binders.

Accordingly, it is submitted that independent claims 1 and 6 as amended and their dependent claims are patentably distinguishable over the references and are not anticipated, nor made obvious, by any of the references, whether taken singularly or in combination. Accordingly reconsideration and withdrawal of the rejection are respectfully requested.

5. Claims 6, 10, and 11 were rejected under the provisions of 35 U.S.C. §102(b) as being anticipated by Shimizu et al. The Office Action alleged that Shimizu et al teaches a formulation comprising a polymer, an inorganic filler such as zirconium oxide, and a solvent such as acetone. Claims 6, 8-9 and 10 were also rejected under the same provisions as being anticipated by Bilkabi alleging the same teachings. These rejections are respectfully traversed.


It is submitted that amended claim 6 as now presented is not anticipated by either of the references, nor made obvious by them whether taken singularly or in any combination thereof. Specifically, Shimizu does not disclose the now claimed ester polymers. Bilkabi employs photocurable compounds which, as stated above with respect to Goetz et al., none of the now claimed polymeric esters are. Accordingly it is submitted that independent claim 6 and its dependent claims are patentably distinguishable over each of the references and are neither anticipated, nor made obvious whether taken alone or in any combination thereof. Therefore reconsideration and withdrawal of the rejections are respectfully requested.

6. In summary, independent claims 1 and 6 have been amended, as have dependent claims 4, 5 and 9. Claims 12-17 have been withdrawn without prejudices. Claims 3 and 8 have been cancelled without prejudice. Claims 2, 7 and 10-11 remain in the application as originally filed. Claims 1-2, 4-7 and 9-11 remain in the application.

Pursuant to currently recommended Patent Office practice, the Examiner is expressly authorized to call the Applicant's attorney collect at Valencia, California, if in his judgment disposition of this application could be expedited or if he considers the application not ready for examination or final disposition by other than allowance.

Respectfully submitted,
3D Systems Inc.

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